NPS Metadata Tools and Editor Exercise: Importing ITIS Metadata, Generating Metadata Catalogs

GOALS: To manage taxonomic classification elements with the NPS Metadata Tools and Editor. To generate metadata catalogs using the NPS Metadata Tools and Editor

The NPS Metadata Tools and Editor contains an Import ITIS tool that automatically inserts taxonomic classification metadata elements into a target metadata record. The Integrated Taxonomic Information System (ITIS) has a utility for generating taxonomic classification metadata from a text-format scientific name list. The Import ITIS tool is available in both the standalone and ArcCatalog versions of the NPS Metadata Tools and Editor. Steps specific to the Metadata Catalog tool within ArcCatalog are highlighted in **red font**.

The ArcCatalog version of the Metadata Tools and Editor offers a Metadata Catalog tool that harvests selected information from metadata files into an MSAccess database with a simple front-end. This catalog is a handy method for documenting current spatial data holdings. Steps specific to the Metadata Catalog tool within ArcCatalog are highlighted in **red font**.

The Import ITIS exercise information was adapted from the Biological Profile Guide document available on the NPS Metadata Tools and Editor page (http://science.nature.nps.gov/nrgis/tools/editor.cfm). For full details on the Metadata Catalog tool, see the Metadata Tools and Editor Help documentation. The Rocky Mountain Network of the NPS Inventory and Monitoring Program developed the Metadata Catalog front-end.

REQUIRED MATERIALS

The following materials are needed to complete this exercise.

1. The NPS Metadata Tools and Editor application (http://science.nature.nps.gov/nrgis/tools/editor.cfm)

2. Exported metadata file from Parsing Metadata exercise (*C:\CLASS\DATA\exports*)

IMPORT ITIS EXERCISE STEPS

Step 1: Create SGML-format taxonomy output of your species list

Create an ASCII text file containing a list of scientific names of the species in question. A sample text file is available in *C:\CLASS\DATA\ITIS\scinames.txt.* The file must be arranged in one column with the column heading "name" on the first line (see Example 1). This file may be created from scratch in a text editor, or an existing file may be converted to text. A few examples follow:

- 'Save As:/Text (Tab delimited)' command in MSExcel (This can be tricky, you may need to copy and paste to a text file).
- 'Save As:/Text' command in MSWord.
- Export as a text file from a shapefile or geodatabase in ArcMap

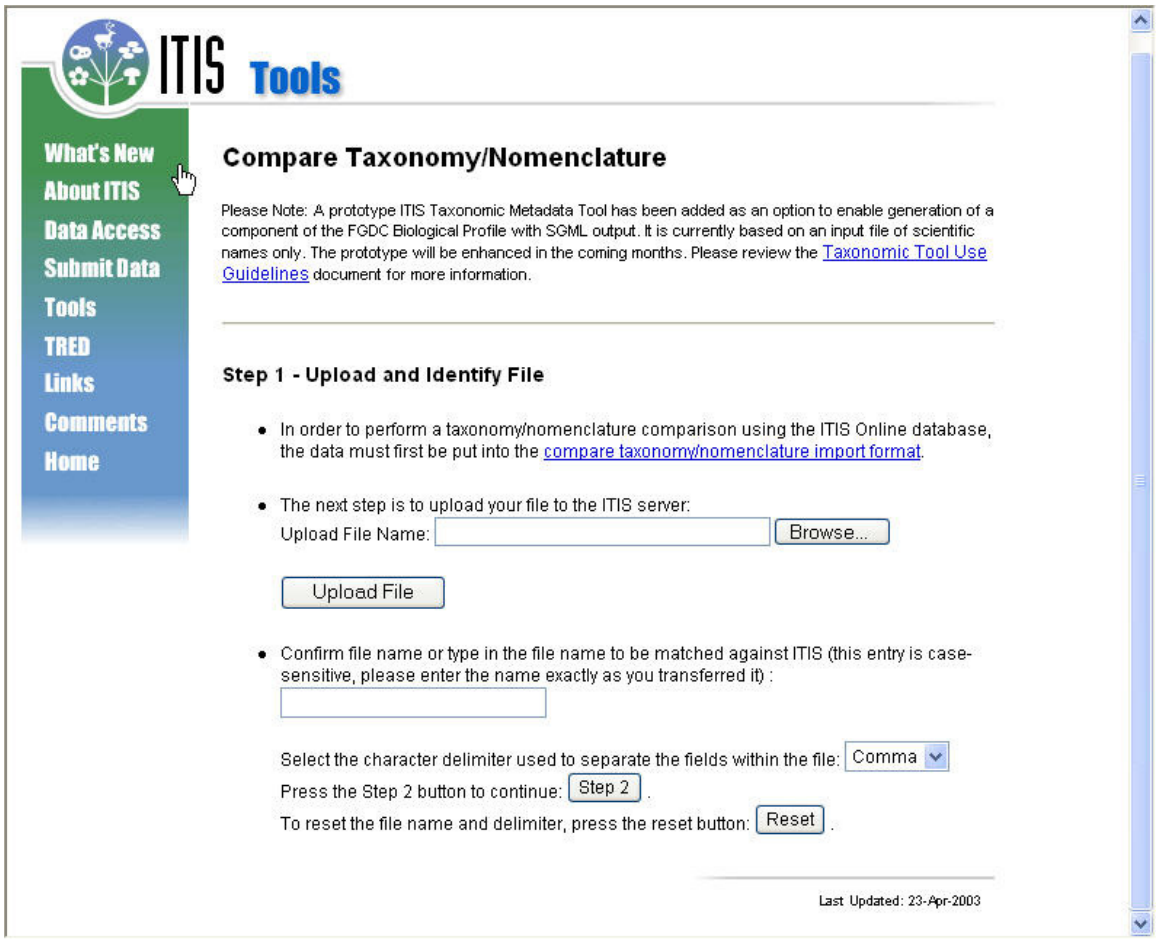
Note: species from different kingdoms (Animal, Plant, Monera, Protist, and Fungi) must be placed in separate text files.

```
name
Odocoileus virginianus
Other scientific name
Other scientific name
Other scientific name
```

Example 1: Text file with species list

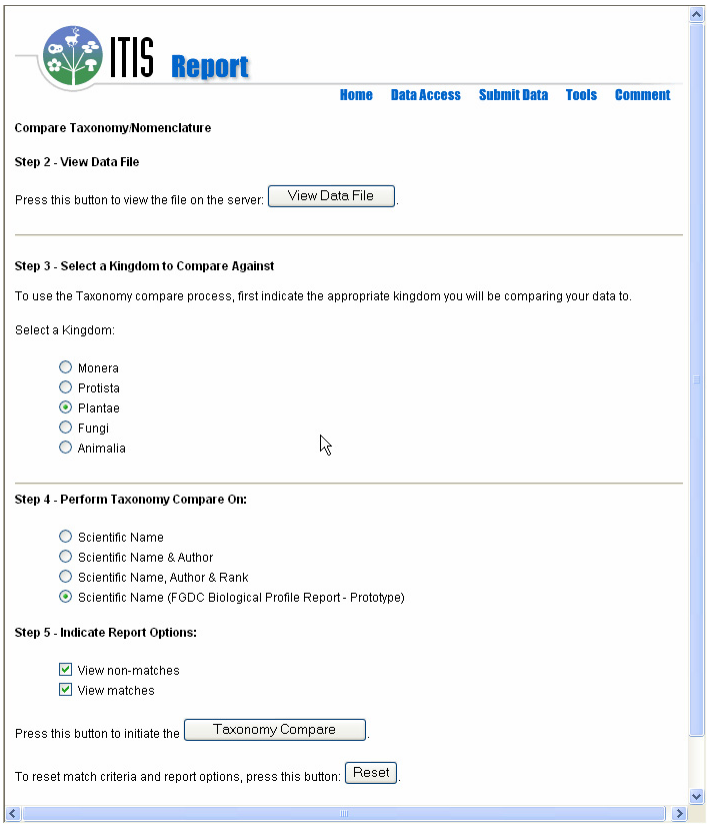
Go to the Integrated Taxonomic Information System (ITIS) website to generate SGML-format taxonomy elements: http://www.itis.usda.gov

- Choose 'Tools' then 'Compare Taxonomy/Nomenclature'
- In the first field, browse for the text file (*C:\CLASS\DATA\ITIS\scinames.txt)* and click 'Upload File'.
  - A new window will come up noting that the download was successful, click 'OK'.
  - Your file's name should appear in the second field.
- Ignore the field asking about the delimiter.
- Click the 'Step2' button.



- Step 3: Choose the appropriate Kingdom option (Plantae).
- Step 4: Select the 'Scientific Name (FGDC Biological Profile Report - Prototype)' option under the Perform Taxonomy Compare On section.

- Step 5: Select ‘View matches’ under the Indicate Report Options section.
- Click the ‘Taxonomy Compare’ button
  - On the resulting page, scroll down to the bottom and click the ‘Generate FGDC Biological Profile SGML’ button.
  - Follow the instructions to download the file. Save it in the appropriate directory on your computer with an *.sgml or *.xml extension.

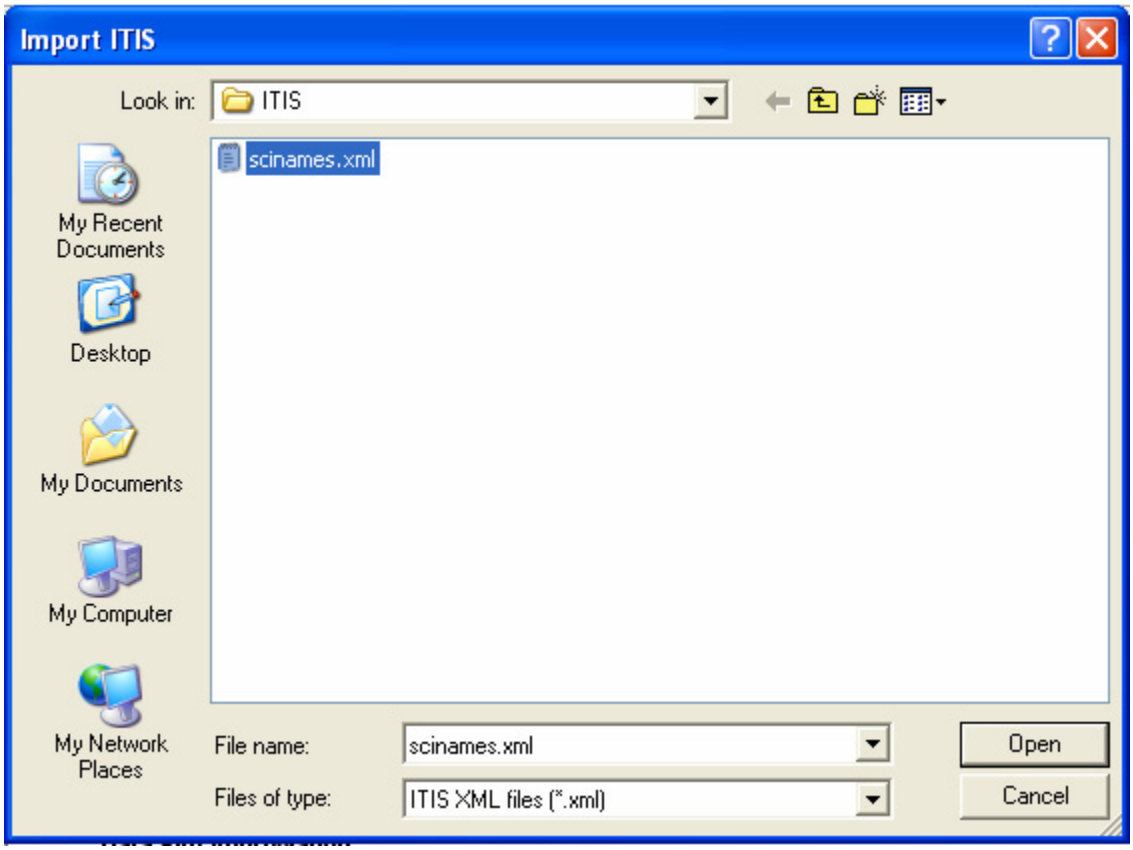


Step 2: Insert Biological Profile taxonomy output into your existing metadata

Make a copy of the metadata file you exported in the Parsing Metadata exercise (in C:\CLASS\DATA\exports).

In ArcCatalog's table of contents, highlight the copied XML metadata file to insert the taxonomy information into. Or, in the stand-alone version, open the copied target XML metadata file. Select **NPS Metadata → Import ITIS** (ArcCatalog version) or **Tools → Import ITIS** or the Import ITIS button  (stand-alone version).

In the Import ITIS dialog, change the 'Files of type:' value to 'ITIS SGML files (*.sgml)' or 'IT IS XML files (*.xml)' depending on how you saved the file and navigate to it. Click the 'Open' button to insert the taxonomic elements.

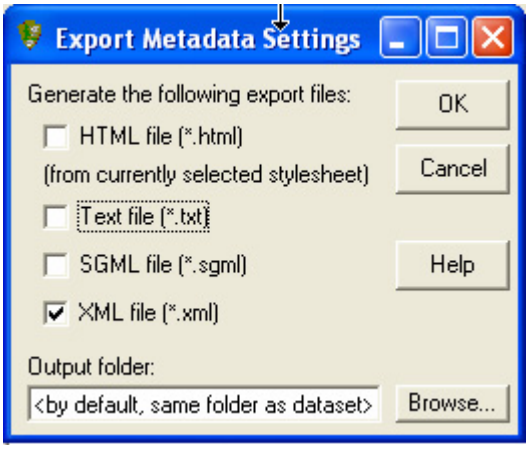


<u>Step 3: *(ArcCatalog Version)*</u> If posting metadata for coverages or geodatabases to the NR-GIS Data Store, export metadata in XML format. This step is not necessary for shapefile or individual metadata.

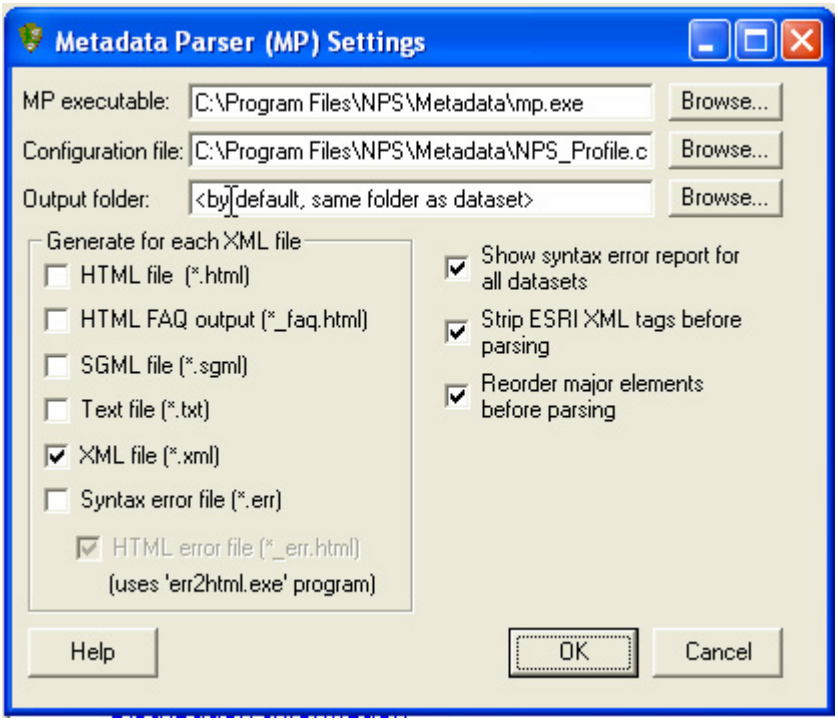
For coverages, metadata is stored in XML format in the coverage workspace folder with a default filename of 'metadata.xml'. This file can be posted to the NR-GIS Data Store, but since the filename is not unique, it is good practice to generate a separate XML file with a unique name for uploading to the Data Store. In a geodatabase, metadata is stored in an OLE XML object field in a database table. If the geodatabase will be posted on the NR-GIS Data Store, it's metadata must be exported to XML since the Data Store cannot harvest the metadata from the database.

Highlight the coverage or geodatabase (or geodatabase feature class or table) in the ArcCatalog table of contents. Choose either the Parse with MP tool or the Export Metadata tool to generate an XML export file. By default with either tool, the exported XML file will receive the coverage filename with an XML extension.

If using Export Metadata, check the 'XML file (*.xml)' option and change the output folder if desired. Click 'OK' to export the XML metadata.



If using Parse with MP, check the 'XML file (*.xml)' option and all three options on the right side. Be sure the NPS_Profile.cfg configuration file appears in the Configuration file box. Click 'OK' to export the XML metadata.



METADATA CATALOG EXERCISE STEPS

The Metadata Catalog tool in the ArcCatalog version of the Metadata Tools and Editor extracts the following metadata elements from metadata files in an MSAccess database table:

- Geospatial file name
- Folder path
- Dataset title
- Abstract and purpose
- Publisher
- Point of contact information
- Publication date
- Theme and place keywords (concatenated)
- Spatial data type
- Spatial reference information
- NPS Unit Code
- Downloadable data location

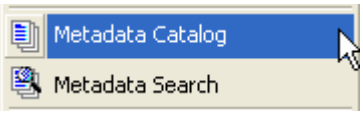
Currently, the tool operates on folders containing geospatial layers with metadata.

The MSAccess catalog database is created by default in C:\Program Files\NPS\Metadata\Catalog as MetadataCatalog.mdb. The front-end utility contains browsing and reporting functions and includes a help file.

Step 1: Creating a Metadata Catalog

Select the desired folder in the table of contents pane of ArcCatalog. Try C:\CLASS\DATA\GIS.

Select the Metadata Catalog tool from the **NPS Metadata** Tools menu.

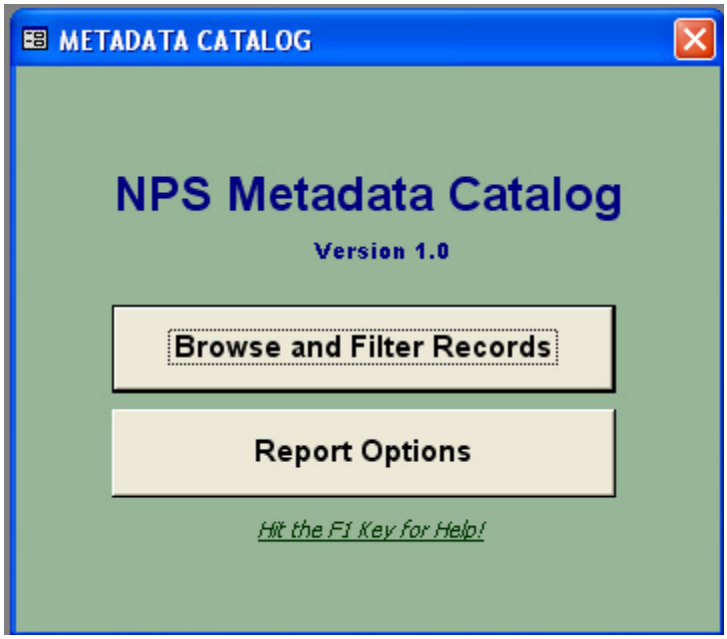


Choose Yes or No when asked to clear current records. 'Yes' will eliminate existing records in the database table. 'No' will append records into the database table.

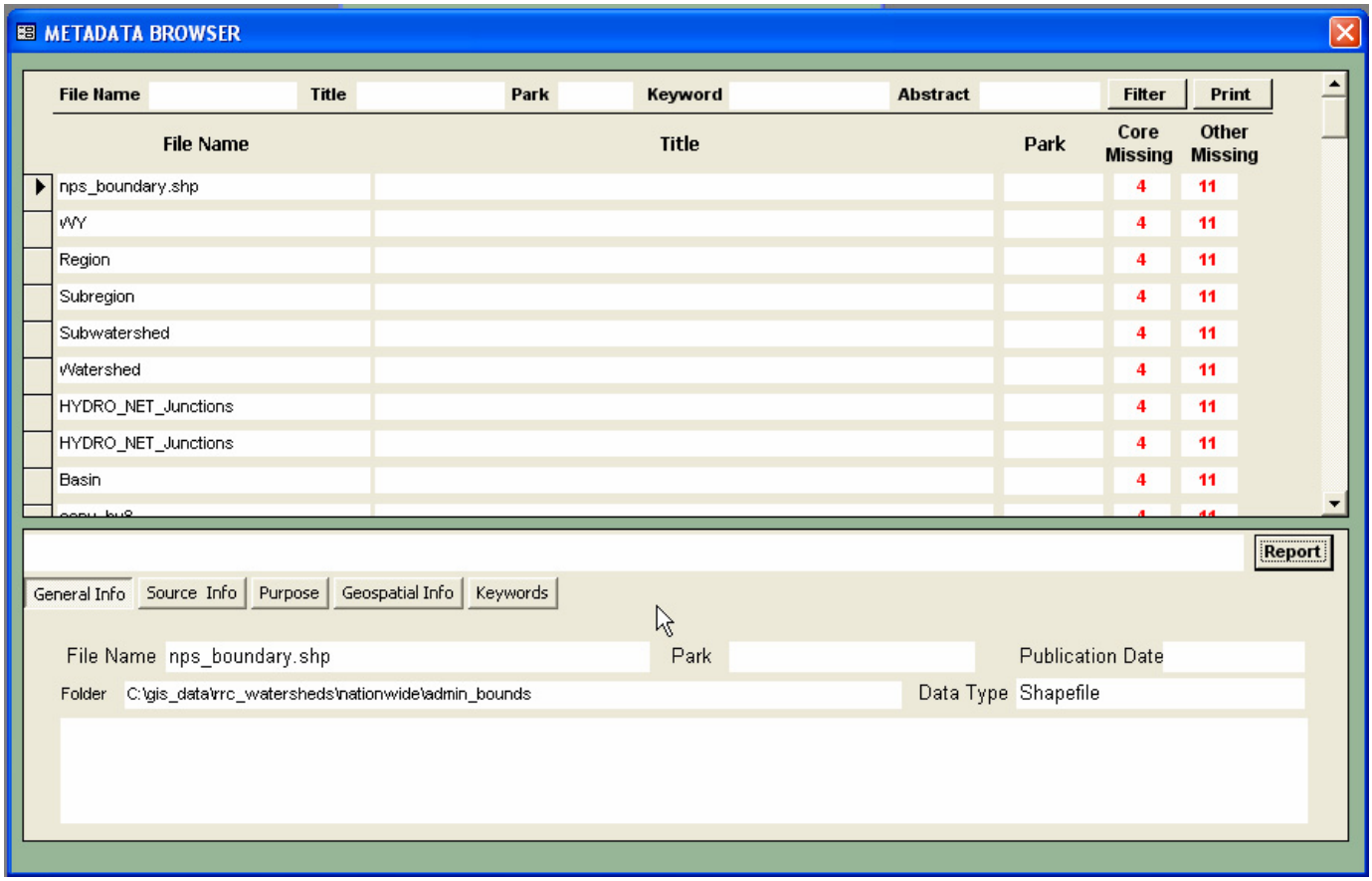
Click 'Yes' when prompted to open the metadata catalog.

Step 2: Browsing the Metadata Catalog, Generating Reports

Select ‘Browse and Filter Records’ from Metadata Catalog main form.



Highlight a record and view the summary tabs at the bottom of the Metadata Browser form.



Try filtering the records. View the single record report using the 'Report' button. Position the mouse in a field and press F1 to open the help file. Explore the help file.

Close the Metadata Browser form and click the 'Report Options' button. Explore the various reporting options.

CONCLUSION

This exercise reviewed the Import ITIS and Metadata Catalog functions of the NPS Metadata Tools and Editor.

REFERENCES

National Park Service Metadata Profile. http://science.nature.nps.gov/nrdata/docs/npsprofile.cfm

SOFTWARE REFERENCES

NPS Metadata Tools and Editor. http://science.nature.nps.gov/nrgis/tools/editor.cfm

NR-GIS Data Store. http://science.nature.nps.gov/nrdata

USGS Metadata Parser and err2html. http://geology.usgs.gov/tools/metadata/

USDA Integrated Taxonomic Information System. http://www.itis.usda.gov